

**Abstract of the disclosure**

A semiconductor apparatus includes an under layer, a first insulating layer and a first conductive portion. The under layer is formed above a substrate. The first  
5 insulating layer is formed on the under layer. The first conductive portion is formed in a first concave portion which passes through the first insulating layer to the under layer. The first conductive portion includes a first barrier metal layer and a first metal portion. The first  
10 barrier metal layer is formed on a side wall and a bottom surface of the first concave portion. The first metal portion is formed on the first barrier metal layer such that the rest of the first concave portion is filled with the first metal portion. The first metal portion includes a  
15 first alloy including copper and aluminium.